Culture and Medicine

Screening tools for depression in primary care

The effects of culture, gender, and somatic symptoms on the detection of depression see also p 292,332

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Depression is projected to become the leading cause of disability and the second leading contributor to the global burden of disease by 2020.[1] It is estimated that the devastation caused by depression—defined as the number of years lost to death or disability—by 2020 will be surpassed only by heart disease.[2]

Primary care physicians treat more than 50% of patients with mental disorders, and depressive disorders are accurately diagnosed in less than half of the patients who are affected.[3] A patient's culture, gender, and/or predominance of somatic symptoms can impede the detection of depression. This is reflected by biases found in self-reporting screening tools used to detect depression. In this article, we discuss the limitations of self-reporting screening tools for depression with respect to culture, gender, and somatic symptoms and suggest ways to use the results of screening tools to improve the detection of depressive disorders.

Summary points

- Semantic differences between the terminology of depression screening tools and the language of some cultures may limit the diagnostic power of these tools
- Somatic symptoms may be more reliable indicators of depression than a patient's emotional state
- Scores from depression screening tools should be used to indicate the need for further evaluation—not as a basis for diagnosis
- Despite their limitations, self-reported depression screening tools are useful for detecting depression in the primary care setting

LITERATURE SEARCH

We conducted literature searches of the PubMed and PsychINFO databases (1990-2001) using the search terms *Beck Depression Inventory, culture,* and *validity.* Further searches of the PubMed database (1990-2001) included the additional search terms *primary care, depression, Center for Epidemiological Studies Depression Scale, Patient Health Questionnaire,* and *General Health Questionnaire.*

We chose articles with relevance to the practice of primary care medicine, the use of depression screening tools in different cultures and different demographic groups, gender biases associated with depression screening tools, and the relationship between depression and somatic symptoms.

INFLUENCES OF CULTURE AND SEX ON THE IDENTIFICATION OF DEPRESSION

Depression screening is an essential part of the detection, treatment, and referral to mental health professionals of persons with depressive disorders. Worldwide, the Beck Depression Inventory is the most extensively used self-reporting tool.[4] Developed in 1961, the inventory was designed to assess the intensity of symptoms associated with psychoanalytic aspects of depression, such as sadness, feelings of failure, guilt, suicidal ideas, and social withdrawal (see box).[5,6] But for certain demographic groups and cultures, the Beck Depression Inventory has limited

Beck Depression Inventory Self-Reporting Questionnaire

Organization

- 21 questions
- Questions scored on a scale from 0 to 3, with 3 indicating severe

Question content

1 Sadness
2 Pessimism
3 Sense of failure
4 Dissatisfaction
5 Guilt
6 Expectation of punishment
7 Self-dislike
8 Self-accusations
9 Suicidal ideas
10 Crying
11 Irritability
12 Social withdrawal
13 Indecisiveness
14 Body image change
15 Work retardation
16 Insomnia
17 Fatigability
18 Anorexia
19 Weight loss
20 Somatic preoccupation
21 Loss of libido

Interpretation

- Score of 1-10: ups and downs are considered normal
- Score of 11-16: mild mood disturbance
- Score of 17-20: borderline clinical depression
- Score of 21-30: moderate depression
- Score of 31-40: severe depression
- Score higher than 40: extreme depression

predictive power and validity because of the effects of translation from English to other languages, patients' different interpretations of its emotional terms, and various cultural factors, such as perceptions of racial prejudice and a cultural group's work ethic.[6-9]

These biases are observed with other screening tools used in primary care, including the Center for Epidemiological Studies Depression scale, designed for diverse demographic groups, and the General Health Questionnaire, which is used to identify short-term changes in mental health.[8,9] Primary care physicians are expected to respond to the needs of a diverse population, and understanding the reliability of self-reported screening tools can assist them in determining how tools contribute to the overall recognition of depression in their patients.

Cross-cultural validity of the tools

One shortcoming of the Beck Depression Inventory arises with linguistic translations of its questions. In their study of the Spanish translation of the Beck Depression Inventory, Azocar and colleagues observed that although the inventory has internal consistency, it lacks cultural validity and applicability due to translations that ignore semantic differences between Spanish and English.[7] The authors observed that Spanish-speaking Latinos, in contrast to English-speaking US nationals, were more likely to endorse (ie, score 3 on) questions 6 (expectation of punishment), 10 (crying), and 14 (body image change) and were less likely to endorse (ie, score 0 on) question 15 (work retardation) (see box). They identified several cultural biases that could affect Latinos' interpretations of these questions and that could lead to erroneous diagnoses of depression. In particular, the authors suggested the following:

- The high endorsement of question 6 could result from the central role of Catholicism in Latino culture and the belief that suffering may be the result of God punishing you for your sins
- Question 10 might be highly endorsed because, in Latino culture, crying has symbolic value and is appropriate and often expected in certain circumstances
- The high endorsement of question 14 might be due to Latinos' exclusion from stereotypic representations of beauty in Western society. Furthermore, Latino attitudes toward beauty, argued the authors, change dramatically with age: in Latino culture, as a woman ages, beauty becomes associated with inner qualities rather than physical appearance
- Latinos' strong work ethic might explain why they predominantly score 0 on question 15. Latinos often take several jobs to support themselves, their families in America, and family members still in the countries of their origin. Even limited absenteeism could have a profound effect on themselves and their dependents
- This study is particularly relevant to primary care physicians. Because of the stigma some Latino populations associate with visiting a mental health professional, they are more likely to see primary care physicians than mental health professionals for mental health issues.[7]

Iwata and colleagues observed a similar effect with a Japanese translation of the General Health Questionnaire.[8] In their study, Japanese consistently endorsed 2 questions about the loss of positive attitude, distorting the number of persons who actually had depression. Cole and colleagues, in their examination of question bias in the Center for Epidemiological Studies Depression scale, identified the potential for biased scores in African Americans because of their positive responses to question 14, "people unfriendly," and question 19, "people disliked me," which they associated with their participants' perceptions of racial prejudice rather than the presence of depression.[9]

Semantically different translations of depression screening questions may decrease the specificity of scores and increase false-positive identifications of the presence of depression. Scores may give the impression that more people have depression than actually do, thereby limiting the reliability of screening tools. Given these findings, it

Questions in a Spanish translation of the Beck Depression Inventory that bias Latino depression scores

Highly likely to endorse (score 3)

- Question 6
  - I don't feel I am being punished (score 0)
  - I feel I may be punished (score 1)
  - I expect to be punished (score 2)
  - I feel I am being punished (score 3)
- Question 10
  - I don't cry any more than usual (score 0)
  - I cry more now than I used to (score 1)
  - I cry all the time now (score 2)
  - I used to be able to cry, but now I can't cry even though I want to (score 3)
- Question 14
  - I don't feel that I look any worse than I used to (score 0)
  - I am worried that I am looking old or unattractive (score 1)
  - I feel that there are permanent changes in my appearance that make me look unattractive (score 2)
  - I believe that I look ugly (score 3)

Highly unlikely to endorse (score 0)

- Question 15
  - I can work about as well as before (score 0)
  - It takes an extra effort to get started at doing something (score 1)
  - I have to push myself very hard to do anything (score 2)
  - I can't do any work at all (score 3)

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Gender bias in screening tools may lead to overdiagnosis of depression in women

would be prudent for primary care physicians to use self-reporting depression screening tools to identify the need for further evaluation rather than to actually diagnose depression itself.[7]

Gender bias in screening tools

It is estimated that twice as many women as men are diagnosed with depressive disorders.[10] Social norms for both the expression and interpretation of depression are reflected in the Beck Depression Inventory's terms, which screens for symptoms of depression stereotypically associated with female gender norms rather than male gender norms (eg, guilt, crying, indecisiveness, somatic preoccupation, and loss of libido). One outcome of this bias is a high rate of false-positive diagnoses for women.[2,4] This greater number of false-positives suggests that the inventory should be used primarily as an indicator of the need for further clinical evaluation.

Social norms may contribute to the implicit prohibition of certain self-descriptive terms depending on a patient's gender. This may influence whether a patient's symptoms will result in a diagnosis of depression. Men may not perceive themselves, or be perceived, as depressed if their sex role prohibits them from using conventional terms to describe emotional problems. This might be an obstacle to using standard screening methods for depression in men.

DEPRESSION OCCURRING WITH SOMATIC COMPLAINTS

Physicians sometimes miss diagnosing depression when somatic symptoms are the patient's major complaints. Somatic complaints and psychological symptoms of depression often occur together. This relationship is not always represented by the questions of depression screening tools. Like the Beck Depression Inventory, most depression questionnaires screen primarily for emotional symptoms.[11] When self-reporting tools screen for somatic complaints, they often identify nonspecific physical symptoms that may also be found in patients who are not depressed.[3,5,7,12]

Inaccurate measures may be attributed in part to how screening tools are designed to test for major depressive disorder. Depression is a syndrome with varied causes, some of which present with specific somatic complaints. Successful diagnosis and treatment (or referral) may be best achieved in primary care through comprehensive screening for all depressive disorders, rather than only for major depressive disorder. Such a screening tool would measure comprehensively for depressive disorders listed in the *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition* (*DSM-IV*) (see box).[13] This tool would expand the recognition of depressive disorders to include depression that goes undetected because patients' symptoms are not typical of a major depressive disorder. It would also increase the recognition of depression in patients who have few or no emotional symptoms but many somatic ones (see box on next page).

The Patient Health Questionnaire could provide the foundation for an examination of depression as a syndrome, although further research is needed to determine its validity and reliability in cross-cultural settings.[7] The questionnaire, derived from the clinician-administered

Depressive disorders that should be picked up by a screening tool for depression

- Major depressive disorder
- Chronic depressive disorder
- Dysthymic disorder
- Adjustment disorder with depressed mood
- Adjustment disorder with anxiety and depressed mood
- Atypical depressive disorder
- Melancholia
- Postpartum depressive disorder

Somatic symptoms that sometimes present with depression

- Headache, migraines
- Sexual dysfunction
- Appetite changes
- Menstrual-related symptoms
- Chronic pain
- Chronic medical conditions (eg, diabetes, Parkinson's disease, alcoholism)
- Digestive problems (eg, diarrhea, constipation)
- Fatigue
- Sleep disturbances

Primary Care Evaluation of Mental Disorders, was developed to detect mental disorders in primary care patients. The long form of the questionnaire screens for 8 mental disorders, including major depressive disorder, anxiety disorder, and depressive disorders not otherwise specified.[14] A short form is included in the Depression Management Kit available as part of the MacArthur Initiative on Depression & Primary Care (www.depression-primarycare.org). By asking yes-or-no questions, primary care physicians could elaborate on the results of the Patient Health Questionnaire, thereby providing a more thorough examination for the presence of depression.

For example, consider the possibility of a patient who has atypical depression. The *DSM-IV* gives the following criteria for atypical depression: significant weight gain or increase in appetite, hypersomnia, leaden paralysis (ie, heavy, leaden feelings in arms or legs), and extreme sensitivity to perceived interpersonal rejection that often results in angry outbursts. The following questions could provide the basis for an evaluation of atypical depressive disorder: "Are you eating more but not really enjoying your food?" "Are you sleeping longer than usual?" "Do your arms and your legs feel leaden and heavy?" "Have you become more sensitive to criticism?" "Do you have more (than usual) displays of anger?"

CONCLUSION

Comprehensive self-reporting tools are needed to help primary care physicians screen for both the psychological and somatic symptoms of depression. Ideally, such a screening tool would be useful in the routine examination of all patients, although whether it should be used on all patients during every consultation remains unclear.[12] Questionnaire scores could contribute to the detection of depression and inform primary care physicians about the general health of their patients. An ideal screening tool would assess the possibility of depression even in a patient presenting primarily with somatic symptoms.

The reliability of a depression screening tool is affected by patients' interpretation of its emotional terms and their cultural conception of depression. Primary care physicians' familiarity with the terms that their patients use to describe emotional problems, as well as how relevant questions are in determining a patient's mental state, could assist in the identification of depression in diverse populations.

Regardless of the limitations of self-reported depression screening tools, it is better to use them to screen for depression than risk missing patients who are suffering from a depressive disorder. Nevertheless, primary care physicians should remember that diagnoses should not be based solely on the findings of depression screening questionnaires.

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References

1 World Health Organization. *Mental Health and Brain Disorders: What Is Depression?* www.who.int/mental_health/Topic_Depression/depression1.htm. Accessed August 10, 2001.
2 National DMDA anticipate health care trends. *Newsletter of the National Depressive and Manic Depressive Association* 1998 Summer, p 1.
3 Callahan EJ, Bertakis KD, Azari R, Helms LJ, Robbins J, Miller J. Depression in primary care: patient factors that influence recognition. *Fam Med* 1997;29:172-176.
4 Richter P, Werner J, Heerlein A, Kraus A, Sauer H. On the validity of the Beck Depression Inventory: a review. *Psychopathology* 1998;31:160-168.
5 Beck AT. *Depression: Causes and Treatment.* Philadelphia: University of Pennsylvania Press; 1967:333-335.
6 Leentjens AF, Verhey FR, Luijckx GJ, Troost J. The validity of the Beck Depression Inventory as a screening and diagnostic instrument for depression in patients with Parkinson's disease. *Mov Disord* 2000;15:1221-1224.
7 Azocar F, Areán P, Miranda J, Muñoz RF. Differential item functioning in a Spanish translation of the Beck Depression Inventory. *J Clin Psychol* 2001;57:355-365.
8 Iwata N, Uno B, Suzuki T. Psychometric properties of the 30-item version general health questionnaire in Japanese. *Jpn J Psychiatry Neurol* 1994;48:547-556.
9 Cole SR, Kawachi I, Maller SJ, Berkman LF. Test of item-response bias in the CES-D scale: experience from the New Haven EPESE Study. *J Clin Epidemiol* 2000;53:285-289.
10 Juliano D. *Depression: What Every Woman Should Know.* Bethesda, MD: National Institute of Mental Health. NIH publication 95-3871.
11 Beck AT, Guth D, Steer RA, Ball R. Screening for major depression disorders in medical inpatients with the Beck Depression Inventory for Primary Care. *Behav Res Ther* 1997;35:785-791.
12 Volk RJ, Nease DE Jr, Cass AR. Recognition of mental health problems in primary care practices. *Fam Med* 1997;29:182-183.
13 American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition.* Washington, DC: American Psychiatric Association; 1994:317-391.
14 Spitzer RL, Kroenke K, Williams JBW. Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. Primary Care Evaluation of Mental Disorders. Patient Health Questionnaire. *JAMA* 1999;282:1737-1744.